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PATTON BOGGS LLP
8484 WESTPARK DRIVE
SUITE 900
MCLEAN, VA 22102

EXAMINER	
WOODWARD, CHERIE MICHELLE	
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1647	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,035	BIGNON ET AL.	
	Examiner	Art Unit	
	CHERIE M. WOODWARD	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *1,2,8 and 27-40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-7,9-15,17-26,36-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/21/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II (claims 3-8, 2-15, 17, and 18) and the species of formula I, in the reply filed on 9/5/2008 is acknowledged. The traversal is on the ground(s) that the reasons given by the Office Action for the species lacking the same or corresponding special technical feature are improper. Applicant cites PCT Rule 13.2 and the definition of "special technical feature" Applicant also argues that the lack of unity shall be drawn only to independent claims, citing PCT Rule 13.2 and MPEP 1850. Applicant argues that the anticipatory reference Huille et al., (the '936 patent) fails to teach formulations that form a gelled deposit in the presence of a protein (Remarks, p. 15). Applicant's arguments have been fully considered, but they are not persuasive.

As stated in the Requirement for Restriction/Election mailed 5 March 2008, claim 1 is anticipated by the '936 patent and as such, the remaining claims lack unity of invention. As stated of record, the '936 patent teaches liquid pharmaceutical compositions comprising non-hollow particles based on polyamino acids for the delivery of active principles wherein the particles that are obtained by contacting polyamino acids with an aqueous solution, wherein the polyaminoacids are linear with alpha-peptide linkages, comprising at least two types of recurring amino acids which are identical or different from one another, selected from the group consisting of a hydrophobic neutral amino acid (AAN), and an amino acid having an ionizable side chain (AAI), at least a portion of the AAI amino acid being in ionized form, having a weight average molar mass MW of not less than 4,000 D, are non-water soluble at acid pH or at a pH between 3 and 12 and have an average size between 0.01 μm and 0.5μm; further comprising at least one active principle; wherein the active principle is medicinal and is an interleukin (claims 1, 2, 7, and 12 of the '936 patent). The '936 also patent teaches the phenomena of association of the APs with the particles is independent of the pH (column 10, lines 48-50). Additionally, the '936 patent teaches the sustained release of the composition at column 5, lines 17-28. Copolymers of glutamic acid and aspartic acid are taught at column 8, lines 64-65. Additionally, the '936 patent teaches the association of polyamino acid polymers in the presence of ovalbumin in Example 13 (column 18), which is responsive to Applicant's argument regarding the presence of a protein.

The rheological properties of gel formation are inherent physical properties of the composition. For example, compositions comprising polymers carrying hydrophobic groups will spontaneously disassociate proteins from the polymer complex in the presence of bovine serum albumin, as evidenced by Akiyoshi, et al., (J Controlled Release. 1998;54:313-320, especially at p. 318, column 2, last paragraph to p. 319, column 1, first paragraph, and p. 319, column 2, last paragraph). Absent evidence to the

contrary, the ovalbumin taught in Example 13 of the '936 patent would permit the same spontaneous disassociation reaction of releasing the interleukin from the aqueous colloidal suspension on a concentration-dependent basis.

Applicant is reminded that a compound and all of its properties are inseparable (*In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963)). Additionally, Applicant is reminded that "[w]hen the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Applicant is also reminded that instant claim 1 does not recite any specific PO (biodegradable polymer) or any specific carrying hydrophobic group.

With regard to Applicant's arguments directed to PCT Rule 13.2 and MPEP 1850, Applicant is directed to MPEP 1850 (II) (Determination of "Unity of Invention"), which states that "[w]hether or not any particular technical feature makes a "contribution" over the prior art, and therefore constitutes a "special technical feature," should be considered with respect to novelty and inventive step. For example, a document discovered in the international search shows that there is a presumption of lack of novelty or inventive step in a main claim, so that there may be no technical relationship left over the prior art among the claimed inventions involving one or more of the same or corresponding special technical features, leaving two or more dependent claims without a single general inventive concept." [Emphasis added.] Lack of unity of invention may be directly evident "*a priori*," that is, before considering the claims in relation to any prior art, or may only become apparent "*a posteriori*," that is, after taking the prior art into consideration. MPEP 1850 (II) (Determination of "Unity of Invention") also states that "[i[If the independent claims avoid the prior art and satisfy the requirement of unity of invention, no problem of lack of unity arises in respect of any claims that depend on the independent claims. … If, however, an independent claim does not avoid the prior art, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered. If there is no link remaining, an objection of lack of unity *a posteriori* (that is, arising only after assessment of the prior art) may be raised. Similar considerations apply in the case of a genus/species or combination/subcombination situation." [Emphasis added.]

The requirement is still deemed proper and is therefore made FINAL.

Formal Matters

2. Claims 1-40 are pending. Applicant's amendments to the claims that were previously indicated as improper multiple dependent claims are acknowledged. Based on Applicant's election of the Invention of

Group II and the species of Formula I, claims 1, 2, 8, 16, and 27-34 are withdrawn as being drawn to non-elected inventions. Claims 3-7, 9-15, 17-26, and 36-40 are under examination as they are drawn to the species of Formula I.

Claim Rejections - 35 USC § 112, Second Paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 7 recites the broad recitation organic cations based on polyamine, and the claim also recites polyethylenimine,, which is the narrower statement of the range/limitation.

5. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not

required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 24 recites the broad recitation proteins, glycoproteins, polysaccharides, liposaccharides, and polynucleotides, and the claim also recites haemoglobins, cytochromes, albumins, interferons, cytokines, antigens, antibodies, erythropoietin, insulin, growth hormones, factors VII and IX, haemopoiesis [sic] stimulating factors, and mixtures thereof, which are the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 112, First Paragraph

Scope of Enablement

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 3-7, 9-15, 17-26, and 35-40 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an IL-2 formulation comprising a polyglutamate polymer grafted with α-tocopherol which spontaneously associates with bovine serum albumin to form a gel *in vitro* and *in vivo* in a concentration-dependent manner, does not reasonably provide enablement for the claimed super genus of structural variants comprising at least one active principle (AP) and a biodegradable polymer (PO) carrying hydrophobic groups (HG) or the super-genus of biodegradable polymers of Formula I. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

The factors considered when determining if the disclosure satisfies the enablement requirement and whether any necessary experimentation is undue include, but are not limited to: 1) nature of the invention, 2) state of the prior art, 3) relative skill of those in the art, 4) level of predictability, 5) existence of working samples, 6) breadth of claims, 7) amount of direction or guidance by the inventor, and 8) quantity of experimentation needed to make or use the invention. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The claims are drawn to a composition of matter as a liquid pharmaceutical formulation comprising at least one active principle which is an interleukin in an aqueous colloidal suspension comprising a water-soluble biodegradable polymer carrying hydrophobic groups that are non-covalently

associated with the active principle, wherein the aqueous colloidal suspension consists essentially of water.

The state of the art discloses a few specific polyglutamate block and co-block polymers, but does not teach the scope of the super-generas claimed by Applicant. Liquid formulations comprising aqueous colloidal suspensions of delivery particles (DPs) for active principles (PA) comprising biodegradable polymers (PO) that are polyamino acids (PAAs) with carrying hydrophobic groups (HG) (column 4, line 3 to column 6, line 13; column 8, lines 60-63; Examples 1-5 (Huille et al., WO 00/30618 (published 2 June 2000) (cited on Applicant's IDS of 9/21/2006) (the English language translation of which is US Patent 6,630,171) (see Patent family history for WO 00/30618, last accessed 11/28/2008). Polyglutamate and polyaspartate block and co-block polymers are taught at columns 5, 6, Examples 1-8, and Tables 1, 2, and 3). The spontaneous association of DPs with APs is taught at column 2, lines 8-10). The hydrophobic groups of the polyamino acids (PAAs) are taught at column 7, line 58 to column 8, line 59). The stabilization of active principles by supramolecular complexation with nanoparticles formed from polysaccharide chains made hydrophobic by grafting cholesterol is taught at column 2, lines 61-65). Active principles are taught at column 9, lines 35-48, including interleukins. The pH of the formulation at a physiological pH (about 7) is taught at column 6, lines 45-46 (see also, Examples 3 and 4). Modes of administration are taught at column 3, lines 50-58; column 9, line 65 to column 10, line 5.

The Huille et al., '936 patent (previously cited of record) teaches liquid pharmaceutical compositions comprising non-hollow particles based on polyamino acids for the delivery of active principles wherein the particles that are obtained by contacting polyamino acids with an aqueous solution, wherein the polyaminoacids are linear with alpha-peptide linkages, comprising at least two types of recurring amino acids which are identical or different from one another, selected from the group consisting of a hydrophobic neutral amino acid (AAN), and an amino acid having an ionizable side chain (AAI), at least a portion of the AAI amino acid being in ionized form, having a weight average molar mass MW of not less than 4,000 D, are non-water soluble at acid pH or at a pH between 3 and 12 and have an average size between 0.01 μm and 0.5μm; further comprising at least one active principle; wherein the active principle is medicinal and is an interleukin (see also claims 1, 2, 7, and 12 of the '936 patent). The '936 also patent teaches the phenomena of association of the APs with the particles is independent of the pH (column 10, lines 48-50). Additionally, the '936 patent teaches the sustained release of the composition at column 5, lines 17-28. Copolymers of glutamic acid and aspartic acid are taught at column 8, lines 64-65. Additionally, the '936 patent teaches the association of polyamino acid polymers in the presence of ovalbumin in Example 13 (column 18).

The viscosity of water is a well known physical property, as evidenced by the Handbook of Chemistry and Physics (Viscosities of Liquids) (Section 6, pages 175-179).

The rheological properties of gel formation are inherent physical properties of the composition. For example, compositions comprising polymers carrying hydrophobic groups will spontaneously disassociate proteins from the polymer complex in the presence of bovine serum albumin, as evidenced by Akiyoshi, et al., (J Controlled Release. 1998;54:313-320, especially at p. 318, column 2, last paragraph to p. 319, column 1, first paragraph, and p. 319, column 2, last paragraph). Absent evidence to the contrary, the ovalbumin taught in Example 13 of the '936 patent would permit the same spontaneous disassociation reaction of releasing the interleukin from the aqueous colloidal suspension on a concentration-dependent basis.

The claims are drawn to a super-genus of potential structures which are not adequately described in the specification in such a way that one of ordinary skill in the art would be aware that Applicant was in possession of the full scope of the claimed genus. For example, the only active principle (AP) recited in the claims is "an interleukin" (see claims 3-7, 9, 10, 19-26, and 35-40). No other active principles are described such that one of ordinary skill in the art would understand that Applicant was in possession of an active principle other than "an interleukin" such that any other "at least one active principle" could be used or would be functional in the claimed formulation along with the "an interleukin."

Claim 7 is a generic formula with numerous alternative structures. Claim 9 recites a generic structure for the hydrophobic group (HG), but does not otherwise limit the other structural variables of Formula I. The structure of Formula I in claim 9 is very basic and there are insufficient variable moieties to account for the full structure of a sufficient number of representative species of Formula I. It is noted that in claim 7 "m" can be zero and in claim 9 "I" can be zero. Based on the structural information in claims 7, 9, and 10, it appears that the biodegradable polymer comprise C6-C30 esters of polyaspartic or polyglutamic acid. There is insufficient structural information in the claims or the specification to provide an adequate description of discrete species of the claimed biodegradable polymers.

Claim 11 recites subgenera of hydrophobic groups, but does not otherwise limit the hydrophobic groups to any particular species. Claims 7 and 12-14 are silent as to the structural requirements for the hydrophobic group. Claim 15 does not limit the number of hydrophobic groups in the aspartic or glutamic unit polymers. Claims 17 and 18 limit the hydrophobic radical R6 to cholesterol or a derivative of a tocopherol, but the claims still only describe sub-generas and not discrete structural species.

The generas of polymers (PO) in claim 21 do not really limit the structure of the formulation when the polymers can be any polyamino acids, polysaccharides, chitosans, mucopolysaccharides,

gelatins, and mixtures thereof. Claim 23 limits the interleukin to interleukin-2, but claim 3, from which claim 23 depends, recites "at least one active principle" and claim 23 does not further limit other interleukins or active principles that may comprise the composition. Claim 24 recites that the formulation further comprises at least one active principle selected from super-generas that include proteins, glycoproteins, a PEG, a polysaccharide, a liposaccharide, a polynucleotide, an oligonucleotide, a peptide, and it also recites more narrow examples of peptides and mixtures thereof. Claims 19, 20, 22, 25, 26, and 35-40 do not adequately limit the structure of the polymer or active principle at all.

The specification discloses a subgenera comprising an IL-2 formulation comprising polyglutamate grafted with α-tocopherol which spontaneously associates with bovine serum albumin to form a gel *in vitro* and *in vivo* in a concentration-dependent manner (Examples 1-8; specification pp. 25-30). However, no other representative structures of Formula I or the generic structure of an active principle and a biodegradable polymer are sufficiently taught in the specification.

Conception does not occur unless one has a mental picture of the structure of the chemical, or is able to define it by its method of preparation, its physical or chemical properties, or whatever characteristics sufficiently distinguish it. *Amgen Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, at 1206, 18 USPQ2d 1016, at 1021 (Fed. Cir. 1991). In such instances the alleged conception fails not merely because the field is unpredictable or because of the general uncertainty surrounding experimental sciences, but because the conception is incomplete due to factual uncertainty that undermines the specificity of the inventor's idea of the invention. *Burroughs Wellcome Co. v. Barr Laboratories Inc.*, 40 F.3d 1223, 1229, 32 USPQ2d 1915, 1920 (Fed. Cir. 1994). Reduction to practice in effect provides the only evidence to corroborate conception (and therefore possession) of the invention. *Id.*

Due to the large quantity of experimentation necessary to determine how to make or use the claimed methods without resorting to undue experimentation to determine the structure of the composition or how to use it *in vitro* or *in vivo*, the lack of direction/guidance presented in the specification regarding same, the absence of sufficient working examples directed to same, the complex nature of the invention, the state of the prior art establishing that specific polyglutamate block and co-block polymers are known, but not the super-genera of polymer structures claimed by Applicant, and the breadth of the claims which fail to recite a specific structure or use for the specific structure, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

Claim Rejections - 35 USC § 112, First Paragraph

Written Description

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 3-7, 9-15, 17-26, and 35-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection, rather than an enablement rejection under 35 U.S.C. 112, first paragraph. Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

The claims are drawn to a composition of matter as a liquid pharmaceutical formulation comprising at least one active principle which is an interleukin in an aqueous colloidal suspension comprising a water-soluble biodegradable polymer carrying hydrophobic groups that are non-covalently associated with the active principle, wherein the aqueous colloidal suspension consists essentially of water.

Vas-Cath Inc. V. Mahurkar, Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 19 USPQ2d 1111, (Fed. Cir. 1991), states that Applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention, for purposes of the written description inquiry, is whatever is now claimed (see page 1117). A review of the language of the claim indicates that these claims are drawn to a genus, i.e., a liquid formulation comprising at least one active principle (AP) which is an interleukin and a biodegradable polymer (PO) carrying hydrophobic groups (HG).

To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof.

A description of a genus may be achieved by means of a recitation of a representative number of species falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus. *Regents of the University of California v. Eli Lilly & Co.*, 119 F3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In *Regents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that, while applicants are not required to disclose every species encompassed by a genus, the description of the genus is achieved by the recitation of a representative number of species falling within the scope of the claimed genus. At section B(1), the court states, "An adequate written description of a DNA ... requires a precise definition, such as by structure, formula, chemical name, or physical properties, not a mere wish or plan for obtaining the claimed chemical invention."

There are subgenera of the claimed genus disclosed that is within the scope of the claimed genus, *i.e.* an IL-2 formulation comprising polyglutamate grafted with α-tocopherol which spontaneously associates with bovine serum albumin to form a gel *in vitro* and *in vivo* in a concentration-dependent manner (Examples 1-8; specification pp. 25-30). The disclosure of a single disclosed species may provide an adequate written description of a genus when the species disclosed is representative of the genus. However, the present claim encompasses numerous species that are not further described.

The claims are drawn to a super-genus of potential structures which are not adequately described in the specification in such a way that one of ordinary skill in the art would be aware that Applicant was in possession of the full scope of the claimed genus. For example, the only active principle (AP) recited in the claims is "an interleukin" (see claims 3-7, 9, 10, 19-26, and 35-40). No other active principles are described such that one of ordinary skill in the art would understand that Applicant was in possession of an active principle other than "an interleukin" such that any other "at least one active principle" could be used or would be functional in the claimed formulation along with the "an interleukin".

Claim 7 is a generic formula with numerous alternative structures. Claim 9 recites a generic structure for the hydrophobic group (HG), but does not otherwise limit the other structural variables of Formula I. The structure of Formula I in claim 9 is very basic and there are insufficient variable moieties to account for the full structure of a sufficient number of representative species of Formula I. It is noted that in claim 7 "m" can be zero and in claim 9 "l" can be zero. Claim 7 is also silent as to the structural requirements for the hydrophobic group. Based on the structural information in claims 7, 9, and 10, it appears that the biodegradable polymer comprise C6-C30 esters of polyaspartic or polyglutamic acid.

There is insufficient structural information in the claims or the specification to provide an adequate description of discrete species of the claimed biodegradable polymers.

Claim 11 recites subgenera of hydrophobic groups, but does not otherwise limit the hydrophobic groups to any particular species. Claims 7 and 12-14 are silent as to the structural requirements for the hydrophobic group. Claim 15 does not limit the number of hydrophobic groups in the aspartic or glutamic unit polymers. Claims 17 and 18 limit the hydrophobic radical R6 to cholesterol or a derivative of a tocopherol, but the claims still only describe sub-generas and not discrete structural species.

The generas of polymers (PO) in claim 21 do not really limit the structure of the formulation when the polymers can be any polyamino acids, polysaccharides, chitosans, mucopolysaccharides, gelatins, and mixtures thereof. Claim 23 limits the interleukin to interleukin-2, but claim 3, from which claim 23 depends, recites "at least one active principle" and claim 23 does not further limit other interleukins or active principles that may comprise the composition. Claim 24 recites that the formulation further comprises at least one active principle selected from super-generas that include proteins, glycoproteins, a PEG, a polysaccharide, a liposaccharide, a polynucleotide, an oligonucleotide, a peptide, and it also recites more narrow examples of peptides and mixtures thereof. Claims 19, 20, 22, 25, 26, and 35-40 do not adequately limit the structure of the polymer or active principle at all.

While "examples explicitly covering the full scope of the claim language" typically will not be required, a sufficient number of representative species must be included to "demonstrate that the patentee possessed the full scope of the [claimed] invention." Lizardtech v. Earth Resource Mapping, Inc., 424 F.3d 1336, 1345, 76 USPQ2d 1724, 1732 (Fed. Cir. 2005).

In the absence of sufficient recitation of distinguishing characteristics, the specification does not provide adequate written description of the claimed genus, which is a liquid formulation comprising at least one active principle (AP) which is an interleukin and a biodegradable polymer (PO) carrying hydrophobic groups (HG). One of skill in the art would not recognize from the disclosure that the applicant was in possession of the genus. Possession may not be shown by merely describing how to obtain possession of members of the claimed genus or how to identify their common structural features (see, Univ. of Rochester v. G.D. Searle & Co., 358 F.3d 916, 927, 69 USPQ2d 1886, 1895 (Fed. Cir. 2004); accord Ex Parte Kubin, 2007-0819, BPAI 31 May 2007, opinion at p. 16, paragraph 1). The specification does not clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed (see *Vas-Cath* at page 1116).

Conception does not occur unless one has a mental picture of the structure of the chemical, or is able to define it by its method of preparation, its physical or chemical properties, or whatever

characteristics sufficiently distinguish it. *Amgen Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, at 1206, 18 USPQ2d 1016, at 1021 (Fed. Cir. 1991). In such instances the alleged conception fails not merely because the field is unpredictable or because of the general uncertainty surrounding experimental sciences, but because the conception is incomplete due to factual uncertainty that undermines the specificity of the inventor's idea of the invention. *Burroughs Wellcome Co. v. Barr Laboratories Inc.*, 40 F.3d 1223, 1229, 32 USPQ2d 1915, 1920 (Fed. Cir. 1994). Reduction to practice in effect provides the only evidence to corroborate conception (and therefore possession) of the invention. *Id.*

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 3-7, 9-15, 18-22, 24-26, and 36-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Huille et al., WO 00/30618 (published 2 June 2000) (cited on Applicant's IDS of 9/21/2006) (the English language translation of which is US Patent 6,630,171) (see Patent family history for WO 00/30618, last accessed 11/28/2008), as evidenced by the Handbook of Chemistry and Physics, 88th Ed. 2008, (Viscosities of Liquids, Section 6, pages 175-179) and Akiyoshi, et al., (J Controlled Release. 1998;54:313-320). The pin-citations below of the '618 publication are based on its English translation (the '171 patent).

The claims are drawn to a composition of matter as a liquid pharmaceutical formulation comprising at least one active principle as an interleukin in an aqueous colloidal suspension comprising a water-soluble biodegradable polymer carrying hydrophobic groups that are non-covalently associated with the active principle, wherein the aqueous colloidal suspension consists essentially of water.

The '618 publication teaches liquid formulations comprising aqueous colloidal suspensions of delivery particles (DPs) for active principles (PA) comprising biodegradable polymers (PO) that are polyamino acids (PAAs) with carrying hydrophobic groups (HG) (column 4, line 3 to column 6, line 13; column 8, lines 60-63; Examples 1-5) (compare instant claims 3-7, 9, 10, 21, and 37-40). Polyglutamate and polyaspartate block and co-block polymers are taught at columns 5, 6, Examples 1-8, and Tables 1, 2, and 3) (compare instant claims 3, 6, 7, 9, 10, 12-15, and 38-40). The spontaneous association of DPs with APs is taught at column 2, lines 8-10 (compare instant claims 3 and 7). The hydrophobic groups of the polyamino acids (PAAs) are taught at column 7, line 58 to column 8, line 59) (compare instant claims 3-

7, 9-10, and 15). The stabilization of active principles by supramolecular complexation with nanoparticles formed from polysaccharide chains made hydrophobic by grafting cholesterol is taught at column 2, lines 61-65) (compare instant claim 11, 18). The concentration of the polymers between 15 and 50 mg/ml are taught at column 5, lines 58-61) (compare instant claim 19). Active principles are taught at column 9, lines 35-48, including interleukins (compare instant claims 3, 7, and 24). The pH of the formulation at a physiological pH (about 7) is taught at column 6, lines 45-46 (see also, Examples 3 and 4) (compare instant claim 37). Modes of administration are taught at column 3, lines 50-58; column 9, line 65 to column 10, line 5 (compare instant claims 25 and 26).

With regard to the gel-forming properties of the claimed composition (claims 3, 4, 35, and 36), the rheological properties of gel formation are inherent physical properties of the composition. For example, compositions comprising polymers carrying hydrophobic groups will spontaneously disassociate proteins from the polymer complex in the presence of bovine serum albumin, as evidenced by Akiyoshi, et al., (J Controlled Release. 1998;54(313-320) (especially at p. 318, column 2, last paragraph to p. 319, column 1, first paragraph, and p. 319, column 2, last paragraph). Absent evidence to the contrary, the bovine serum albumin solution taught in Example 7 would permit the same spontaneous disassociation reaction of releasing the active principle (AP) from the aqueous colloidal suspension on a concentration-dependent basis. Because the Patent Office does not have the facilities to determine whether the composition taught by the '618 publication forms a gelled deposit *in vitro* in an aqueous solution of bovine serum albumin at a concentration of 30mg/ml, the burden is on the application to show a novel and unobvious difference between the claimed scaffold and that of the prior art. See In re Brown, 59 CCPA 1036, 459 F.2d. 531, 173 USPQ 685 (CCPA 1972) (holding at 1041, "[a]s a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith") and Ex parte Gray, 10 USPQ 2d 1922, 1924-25 (PTO Bd. Pat. App. & Int.).

The viscosity of water meets the limitations of instant claims 3, 5, and 20, as evidenced by the Handbook of Chemistry and Physics (Viscosities of Liquids) (Section 6, pages 175-179).

It is noted that the claims are drawn to a composition of matter, the functional descriptions of the structures recited in the claims are inherent to the structure of the composition. Applicant is reminded that a compound and all of its properties are inseparable (*In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963)). Additionally, Applicant is reminded that "[w]hen the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Claim 22 is amenable to testing. Because the Patent Office does not have the facilities to determine whether the formulation of claim 3 (as taught by the '618 publication) has a % weight fraction of interleukin(s) not associated with submicronic particles of ≤ 1, the burden is on the application to show a novel and unobvious difference between the claimed scaffold and that of the prior art. See In re Brown, 59 CCPA 1036, 459 F.2d. 531, 173 USPQ 685 (CCPA 1972) (holding at 1041, "[a]s a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith") and Ex parte Gray, 10 USPQ 2d 1922, 1924-25 (PTO Bd. Pat. App. & Int.).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 17 and 23 are rejected in addition to claims 3-7, 9-15, 18-22, 24-26, and 36-40 under 35 U.S.C. 103(a) as being unpatentable over Huille et al., WO 00/30618 (published 2 June 2000) (cited on Applicant's IDS of 9/21/2006) (the English language translation of which is US Patent 6,630,171) (see Patent family history for WO 00/30618, last accessed 11/28/2008), Lambert et al., US Patent 7,030,155 (benefit to 5 June 1998), and Singh et al., US Patent 5,102,872 (7 April 1992), as evidenced by the Handbook of Chemistry and Physics, 88th Ed., 2008 (Viscosities of Liquids, Section 6, pages 175-179) and Akiyoshi, et al., (J Controlled Release. 1998;54:313-320). The pin-citations below of the '618 publication are based on its English translation (the '171 patent).

The Examiner finds the following facts:

a. The claims are drawn to a composition of matter as a liquid pharmaceutical formulation comprising at least one active principle as an interleukin in an aqueous colloidal suspension comprising a water-soluble biodegradable polymer carrying hydrophobic groups that are non-covalently associated with the active principle, wherein the aqueous colloidal suspension consists essentially of water.

b. The '618 publication teaches as set forth above. Additionally, the Handbook of Chemistry and Physics and Akiyoshi et al., provide evidence as set forth above.

c. The '618 publication does not teach a tocopherol derivative as the hydrophobic group of the polymer composition.

d. The '155 teaches the addition of hydrophobic moieties including α-tocopherol to proteins in order to improve solubility of poorly soluble drugs (column 8, lines 29- 31) (compare instant claim 17).

e. The '872 patent teaches compositions comprising IL-2 conjugated to a polyol in order to approve the solubility of IL-2 in a sustained release formulation (column 3, lines 6 and 49, and column 5, lines 34-41) (compare instant claim 23). The addition of human or bovine serum albumin is taught as stabilizing and modulating the release of the polyol-IL-2 from polymer microcapsules (column 5, lines 59-65) (compare instant claim 3).

f. A person of ordinary skill in the art at the time the invention was made would have reasonably known that hydrophobic groups could be grafted to proteins, as taught by the '155 patent. Further, a person of ordinary skill in the art would have been able to make hydrophobic moieties grafted to proteins or amino acid polymers by using well-known methodologies and protocols, such as the ones taught by the '155 patent, and the resulting structure and function of

the grafted hydrophobic group would have been predictable; to improve solubility of poorly soluble drugs.

g. A person of ordinary skill in the art at the time the invention was made would have reasonably known that IL-2 mediates a successful immune response to antigens, as taught by the '872 patent (column 2, lines 31-32). Further, a person of ordinary skill in the art would have known that attaching a polyol to IL-2 would increase its half-life and improve its solubility in a sustained release formulation, as taught by the '872 patent.

In view of the facts recited above, it would have been prima facie obvious to a person of ordinary skill in the art at the time the invention was made to combine the prior art elements according to known methods to yield predictable results. The prior art teaches all of the limitations of the claimed invention.

The '618 publication teaches stabilization of active principles by supramolecular complexation with nanoparticles formed from polysaccharide chains made hydrophobic by grafting cholesterol as the hydrophobic group) column 2, lines 61-65). The '618 publication does not teach a tocopherol derivative as the hydrophobic group. The '155 patent teaches the addition of hydrophobic moieties including α-tocopherol to proteins in order to improve solubility of poorly soluble drugs (column 8, lines 29- 31) (compare instant claim 17). It would have been obvious and predictable to merely substitute a tocopherol derivative, such as the vitamin E (α-tocopherol) with the cholesterol taught by the '618 publication because the '155 patent teaches the addition of hydrophobic moieties to proteins in order to improve the solubility of poorly soluble drugs and the '618 publication teaches cholesterol grafted to polyglutamate block polymers for the same purpose. Both the level of skill in the art in the field of molecular biology and the actual construction of cholesterol and tocopherol derivative grafts to proteins, as taught by the '618 publication and the '155 patent, make the substitution predictable.

The '618 publication teaches the use of interleukins as active principles (APs). The '872 patent teaches compositions comprising IL-2 conjugated to a polyol in order to approve the solubility of IL-2 (column 5, lines 34-41) (compare instant claim 3). The addition of human or bovine serum albumin is taught as stabilizing and modulating the release of the polyol-IL-2 from polymer microcapsules (column 5, lines 59-65) (compare instant claim 3). A person of ordinary skill in the art at the time the invention was made would have reasonably known that IL-2 mediates a successful immune response to antigens, as taught by the '872 patent (column 2, lines 31-32). Further, a person of ordinary skill in the art would have known that attaching a polyol to IL-2 would increase its half-life and improve its solubility in a sustained release formulation, as taught by the '872 patent. A person of ordinary skill in the art would have been

motivated to increase the half-life of IL-2 in a sustained release composition because IL-2 is well known for its immune enhancing effects and the attachment of a polyol and the use of albumin as a stabilizer would overcome problems of IL-2's short serum half-life (see the '872 patent at column 4, lines 31-35).

Obviousness-Type Double Patenting Rejections

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claims 3-7, 9-15, 18-22, 24, and 36-40 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-35 of U.S. Patent No. 6,630,171 (7 October 2003) as evidenced by the Handbook of Chemistry and Physics (Viscosities of Liquids, Section 6, pages 175-179) and Akiyoshi, et al., (J Controlled Release. 1998;54(313-320). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same and overlapping subject matter. The '171 patent and the instant application have common Assignees.

The '171 patent teaches liquid formulations comprising aqueous colloidal suspensions of delivery particles (DPs) for active principles (PA) comprising biodegradable polymers (PO) that are polyamino acids (PAAs) with carrying hydrophobic groups (HG) (column 4, line 3 to column 6, line 13; column 8, lines 60-63; Examples 1-5) (compare instant claims 3-7, 9, 10, 21, and 37-40). Polyglutamate and polyaspartate block and co-block polymers are taught at columns 5, 6, Examples 1-8, and Tables 1, 2, and 3) (compare instant claims 3, 6, 7, 9, 10, 12-15, and 38-40). The spontaneous association of DPs with APs is taught at column 2, lines 8-10 (compare instant claims 3 and 7). The hydrophobic groups of the polyamino acids (PAAs) are taught at column 7, line 58 to column 8, line 59) (compare instant claims 3-7, 9-10, and 15). The stabilization of active principles by supramolecular complexation with nanoparticles formed from polysaccharide chains made hydrophobic by grafting cholesterol is taught at column 2, lines 61-65) (compare instant claim 11, 18). The concentration of the polymers between 15 and 50 mg/ml are taught at column 5, lines 58-61) (compare instant claim 19). Active principles are taught at column 9, lines 35-48, including interleukins (compare instant claims 3, 7, and 24). The pH of the formulation at a physiological pH (about 7) is taught at column 6, lines 45-46 (see also, Examples 3 and 4) (compare instant claim 37). Compare claims 1-35 of the '171 patent). A claim-by-claim comparison is readily made by one of ordinary skill in the art.

With regard to the gel-forming properties of the claimed composition (claims 3, 4, 35, and 36), the rheological properties of gel formation are inherent physical properties of the composition. For example, compositions comprising polymers carrying hydrophobic groups will spontaneously disassociate proteins from the polymer complex in the presence of bovine serum albumin, as evidenced by Akiyoshi, et al., (J Controlled Release. 1998;54(313-320) (especially at p. 318, column 2, last paragraph to p. 319, column 1, first paragraph, and p. 319, column 2, last paragraph). Absent evidence to the contrary, the bovine serum albumin solution taught in Example 7 would permit the same spontaneous disassociation reaction of releasing the active principle (AP) from the aqueous colloidal suspension on a concentration-dependent basis. Because the Patent Office does not have the facilities to determine whether the composition taught by the '618 publication forms a gelled deposit *in vitro* in an aqueous solution of bovine serum albumin at a concentration of 30mg/ml, the burden is on the application to show a novel and unobvious difference between the claimed scaffold and that of the prior art. See In re Brown, 59 CCPA 1036, 459 F.2d. 531, 173 USPQ 685 (CCPA 1972) (holding at 1041, "[a]s a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith") and Ex parte Gray, 10 USPQ 2d 1922, 1924-25 (PTO Bd. Pat. App. & Int.).

The viscosity of water meets the limitations of instant claims 3, 5, and 20, as evidenced by the Handbook of Chemistry and Physics (Viscosities of Liquids) (Section 6, pages 175-179).

It is noted that the claims are drawn to a composition of matter, the functional descriptions of the structures recited in the claims are inherent to the structure of the composition. Applicant is reminded that a compound and all of its properties are inseparable (*In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963)). Additionally, Applicant is reminded that "[w]hen the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Claim 22 is amenable to testing. Because the Patent Office does not have the facilities to determine whether the formulation of claim 3 (as taught by the '171 patent) has a % weight fraction of interleukin(s) not associated with submicronic particles of ≤1, the burden is on the application to show a novel and unobvious difference between the claimed scaffold and that of the prior art. See In re Brown, 59 CCPA 1036, 459 F.2d. 531, 173 USPQ 685 (CCPA 1972) (holding at 1041, "[a]s a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith") and Ex parte Gray, 10 USPQ 2d 1922, 1924-25 (PTO Bd. Pat. App. & Int.).

Applicant is reminded that MPEP § 804 (II) states, "When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). This does not mean that one is precluded from all use of the patent disclosure." (Emphasis added). "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

18. Claims 3-7, 9-15, 17, and 21-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 3-7, 9-15, and 21-26 of copending Application No. 10/580023. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same subject matter and overlap in scope by a significant degree. Instant Formula I appears to be identical to Formula I of the '023 application. Interleukins and IL-2 are taught in the specification at page 1, line 21 of the '023 application. See also

Example 5 (p. 26), which teaches preparation of a long-acting IL-2 formulation based on a polyglutamate polymer with an α-tocopherol hydrophobic group (polymer P3) (see Table 1, p. 25). A claim-by-claim comparison is readily made by one of ordinary skill in the art.

Applicant is reminded that MPEP § 804 (II) states, "When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). This does not mean that one is precluded from all use of the patent disclosure." (Emphasis added). "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

19. Claims 3-7, 9-15, 17, 21, 22, and 24-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 3-7, 9-15, and 21-26 of copending Application No. 10/580037. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same subject matter and overlap in scope by a significant degree. Instant Formula I appears to be identical to Formula I of the '037 application. Interleukins are taught in the specification at page 4, line 20 of the '037 application. The preparation of a long-acting formulation based on a polyglutamate polymer with an α-tocopherol hydrophobic group is taught at p. 6, line 25. A claim-by-claim comparison is readily made by one of ordinary skill in the art.

Applicant is reminded that MPEP § 804 (II) states, "When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). This does not mean that one is precluded from all use of the patent disclosure." (Emphasis added). "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

20. Claim 3-7, 9-15, 17, and 21-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4-11, 13-18, 22, 23, and 29 of copending Application No. 11/80856. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same subject matter and overlap in scope by a significant degree. Instant Formula I appears to be identical to Formula I of the '856 application. IL-2 is taught in the specification at page 1, line 21 of the '856 application. The preparation of a long-acting formulation based on a polyglutamate polymer with an α-tocopherol hydrophobic group is taught at p. 2, line 28. A claim-by-claim comparison is readily made by one of ordinary skill in the art.

Applicant is reminded that MPEP § 804 (II) states, "When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). This does not mean that one is precluded from all use of the patent disclosure." (Emphasis added). "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

21. Claims 3-7, 9-15, 17, and 21-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 10-18, and 25-36 of copending Application No. 11/878947. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same subject matter and overlap in scope by a significant degree. Instant Formula I appears to be identical to Formula I of the '947 application. IL-2 is taught in the specification at page 1, line 21 of the '947 application. The preparation of a long-acting formulation based on a polyglutamate polymer with an α-tocopherol hydrophobic group is taught at p. 2, line 27. A claim-by-claim comparison is readily made by one of ordinary skill in the art.

Applicant is reminded that MPEP § 804 (II) states, "When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). This does not mean that one is precluded from all use of the patent disclosure." (Emphasis added). "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

22. Claims 3-7, 9-15, 17, 16-26, and 35-40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 and 26 of copending Application No. 10/516733. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are drawn to the same subject matter and overlap in scope to significant degree. Instant Formula I appears to be identical to Formula I of the '947 application. Interleukins are taught in the '733 application specification at p. 19, line 3 The preparation of a long-acting formulation based on a polyglutamate polymer with an α-tocopherol hydrophobic group is taught throughout the '733 application specification and claims. A claim-by-claim comparison is readily made by one of ordinary skill in the art.

Applicant is reminded that MPEP § 804 (II) states, "When considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1279, 23 USPQ2d 1839, 1846 (Fed. Cir. 1992). This does not mean that one is precluded from all use of the patent disclosure." (Emphasis added). "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

NO CLAIM IS ALLOWED.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHERIE M. WOODWARD whose telephone number is (571)272-3329. The examiner can normally be reached on Monday - Friday 9:30am-6:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manjunath N. Rao can be reached on (571) 272-0939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cherie M. Woodward/
Primary Examiner, Art Unit 1647